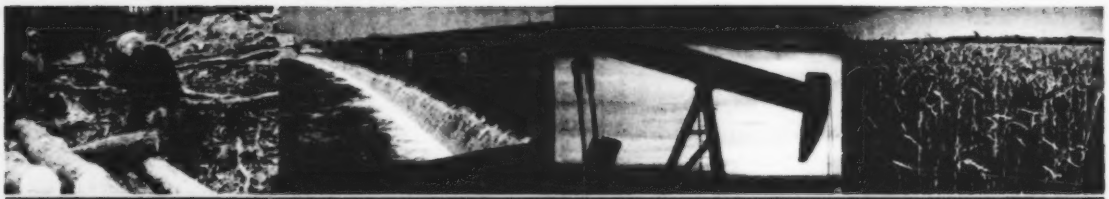

Workforce Profile of the Natural Resources Sector

March, 2004

Canadian Labour and Business Centre

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Workforce Profile of the Natural Resources Sector

Profile Summary

This workforce profile of the natural resources sector provides an overview of current workforce demographics and lists a number of areas where action might be taken to address the critical human resource issues of retention, recruitment and skills development. The profile draws upon two primary data sources, the 2003 Labour Force Survey and the 2001 Census of Canada.

Highlights

- The "ageing" of Canada's total workforce continues, as seen in the rising percentage of older workers. The median age of retirement, however, appears to have stabilized in recent years. Since 1997, it has remained at roughly 61, but nonetheless well below what it was a decade ago.

- The age structure in the natural resources sector closely mirrors national workforce averages. Thirty-six per cent of the workforce is currently 45 years and older, representing 93,000 workers. Within this group, 27,000 workers – 10% of the sector's workforce – are aged 55 and older. Given a median retirement age for the sector of 60 years, the age distribution implies that a large contingent of these 27,000 workers will leave the labour force over the next five years. Over the next 15-year period, employers may be looking at replacing over 45,000 workers.

- Over the past five years, total employment in the natural resource sector - defined here as forestry and logging, mining, and oil and gas extraction - declined by about 7,000 workers (or 3%). However, this decrease in employment is not evident among all age groups. The number of workers under 45 years decreased by 10%, while the number of workers 45 year and over increased by 15% during this period.

- Ninety percent of "near-retirement workers" (persons aged 55 and over) are males. Among workers under 45, males make up about eight of every ten workers.

- The level of formal educational attainment among the natural resources workforce is increasing. Even over the relatively short time span of 1997 to 2003, the proportion of the workforce with a post-secondary certificate, diploma or degree has increased from 48% to 53%.

- Aboriginal Canadians currently account for about 5% of the sector's workforce, and are likely to be an increasingly important source of labour and skills, particularly in areas with high concentrations of Aboriginal people.

- Immigrants are under-represented within the natural resources sector: less than 2% of the workforce are recent immigrants to Canada, well below the level found in other sectors of the economy. Settlement patterns of immigrants to large urban centres is a key challenge for recruitment.

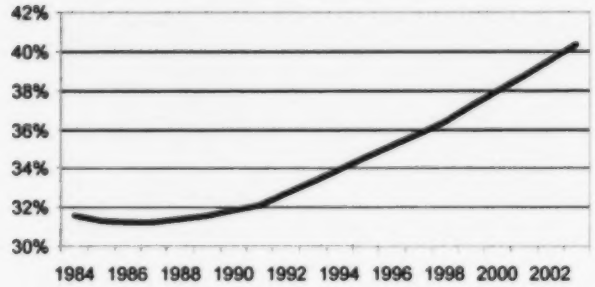
The human resource challenges posed by workplace demographics and the continuing demand for skilled workers can be addressed through a variety of recruitment, retention and skills development strategies.

Workforce Profile of the Natural Resources Sector

Introduction - Canada's Ageing Workforce

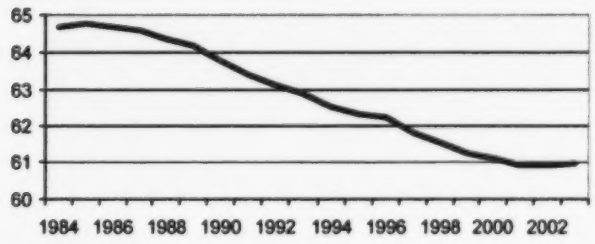
The Canadian population is "ageing" and so too is the workforce. In less than a decade, the first of the baby boom generation – born between 1946 and 1965 – will begin to reach retirement age. And with the median age of retirement currently around 61, what might mean "freedom" for the current generation of older workers could spell "trouble" for employers in the coming years.

Chart 1
Labour Force Participants Aged 45-64 as a Percentage of the Labour Force Aged 20-64



Source: Statistics Canada, Labour Force Historical Review 2003

Chart 2
Median Retirement Age* - Canada



Source: Statistics Canada, Labour Force Historical Review

As a result of these workforce demographics, there is a growing awareness and concern throughout all sectors of the economy about possible skill shortages and the need to foster skills development and learning among new labour market entrants as well as the existing workforce. Add to this demographic picture the growing level of international competition with developed countries and emerging low wage competitors, as well as the rapid pace of technological development and innovation, and it is no surprise that the issues of skill shortages and skills development have become paramount for many industry stakeholders and human resource planners.

Consider the following:

- As shown in Chart 1, the proportion of the Canadian working-age labour force aged 45-64 years has been increasing over the past fifteen years, from 32% in 1984 to 40% in 2003. During the same period, the median retirement age has followed a downward trend, going from 65 in 1984 to 61 in 2003 (Chart 2). Statistics Canada reports that the retiring baby boom generation will have a significant impact on the size of the labour market, particularly as relatively fewer young people will be entering it[1];

[1] Statistics Canada, The Changing Profile of Canada's Labour Force, Catalogue no. 96F0030XIE2001009.

- By 2030, natural population increase is expected to reach zero, meaning that from then on, immigration is projected to be the sole source of population growth[2]. Over the past decade, 70% of net labour force growth resulted from immigrants who landed in Canada during the 1990s. Within ten years, immigration is expected to account for all net labour force growth[3];

- The demand for skills is high and increasing. Between 1991 and 2001, management occupations and professional occupations requiring university, college or apprenticeship training accounted for 74 per cent of labour force growth[4];

- According to Statistics Canada's 1999 Workplace and Employee Survey (WES), almost one-half (48%) of Canadian business locations introduced some form of product or process innovation in that year. That figure rises to 67% among establishments with 20 or more employees[5]. Similarly, the Survey of Electronic Commerce and Technology found that between 2000 and 2002, more than 75% of private sector firms with 100 or more full-time employees acquired "significantly improved technologies."[6]

- In a 2002 survey of business and labour leaders, the Canadian Labour and Business Centre found that 56% of labour leaders and 52% of managers described the shortage of skilled labour as a serious problem facing the economy and labour market[7]. The Canadian Manufacturers and Exporters' 2003-2004 Management Issues Survey found that the lack of qualified personnel was identified as one of the top three constraints on performance improvement[8].

Whether and to what extent skill shortages materialize in the future is a matter of some debate[9], depending upon numerous supply and demand conditions, and how these unfold within different sectors and occupations. There is general agreement however, that making the best use of existing skills and building on these through continuous learning and skills development is critically important in the "knowledge economy".

Issues central to the ageing workforce include how to best recruit new talent, retain the current workforce, and effectively transfer skills and knowledge from older, more experienced workers to the younger ones.

This workforce profile of the natural resources sector provides an overview of current workplace demographics and discusses a number of areas where action might be taken to address the critical human resource and skills issues. The sector is restricted here to forestry and logging with support activities, mining, oil and gas extraction. It comprises establishments primarily engaged in growing and harvesting timber, and in exploring and extracting ores, crude petroleum, and natural gas. It excludes agriculture, fishing and trapping, as well as electric power generation, natural gas distribution, and other manufacturing activities related to natural resources[10].

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[2] Statistics Canada, http://www.statcan.ca/english/kits/issues/charts/chart3.htm
[3] Ibid.
[4] Ibid.
[5] Leckie, Norm, Andre Leonard, Julie Turcotte and David Wallace. Employer and Employee Perspectives on Human Resource Practices, Ottawa: Statistics Canada and Human Resources Development Canada, 2001.
[6] Earl, Louise. An Historical Comparison of Technological Change, 1998-2000 and 2000-2002, in the Private and Public Ssectors. Ottawa, Statistics Canada. Catalogue no. 88F0006XIE – No.007.
[7] Canadian Labour and Business Centre, Viewpoints 2002: Skills and Skill Shortages, 2002. Available on the CLBC website: www.clbc.ca
[8] Canadian Manufacturers and Exporters, *Leveraging Success: 2003-2004 Management Issues Survey*, 2003.
[9] R.A. Malatest & Associates, The Aging Workforce and Human Resources Development Implications for Sector Councils. A Report prepared for the Alliance of Sector Councils, 2003.
[10] These sectors are sometimes included as part of a broad based definition of the natural resources sector. See for example, Natural Resources Canada, *Canada's Natural Resource Sectors and Allied Industries*, September, 2002. http://mmsd1.mms.nrcan.gc.ca/roundtable/Deck_Final_english.pdf

Older Workers: Overview of Natural Resources in Relation to Other Sectors

One way to gauge the impact of an ageing workforce on future labour supply is to look at the proportion of older workers in the workforce and compare it to the typical age of workers at retirement. Among the employed population in Canada, 5.7 million workers are currently 45 years of age and older, representing 36% of the workforce (Table 1). Assuming that the median retirement age of 61 years remains unchanged, it means that one-half of this group – some 2.8 million workers – will likely be retiring over the next 15 years.

Table 1
The proportion of workers 45 years and older, as well as that of workers 55 years and older, showing median age at retirement, by industry sectors
Labour Force Survey, 2003 annual averages. Median retirement based on persons retiring between 1999 and 2003.

	Aged 45+		Aged 55+		Median Retirement
	%	(000's)	%	(000's)	Age
Agriculture	47%	161	25%	86	67
Educational Services	44%	467	14%	149	57
Public Administration	43%	354	12%	94	59
Utilities	45%	59	9%	12	57
Transportation and Warehousing	43%	329	14%	111	62
Health Care and Social Assistance	42%	700	14%	230	62
Natural Resources	**36%**	**93**	**10%**	**27**	**60**
Hunting and Fishing	41%	12	15%	4	
Finance, Insurance, Real Estate and Leasing	39%	365	14%	130	61
Other Services	37%	260	16%	114	64
Construction	36%	335	13%	124	64
Manufacturing	36%	823	11%	255	61
Professional, Scientific and Technical Services	35%	353	14%	139	64
Management, Administrative and Other Support	32%	196	13%	81	65
Trade	30%	742	11%	266	63
Information, Culture and Recreation	28%	199	9%	65	61
Accommodation and Food Services	21%	218	7%	76	63
All Industries	**36%**	**5,666**	**12%**	**1,963**	**61**

The retirement picture in the natural resource sector mirrors fairly closely the overall economy. In this sector, 36% of the workforce is currently 45 years and older, representing 93,000 workers. Within this group, 27,000 workers – 10% of the sector's workforce – are aged 55 and older. Given a median retirement age for the sector of 60 years, the age distribution implies that a large contingent of these 27,000 workers will leave the labour force over the next five years. Over the next 15-year period, employers may be looking at replacing 45,000 or more workers in the sector.

Older Workers in the Natural Resources Sector

Table 2 shows the percentage of the workforce aged 45 plus and 55 plus within various workforce characteristics, as well as the distribution of the 55 plus workforce by the same characteristics.

- 90% of workers aged 55 and older are male. This result is not surprising, since men account for 84% of the entire workforce of this male-dominated sector. Among workers under 45 years of age, males account for about eight of every ten workers.
- Among the provinces, Quebec has the highest proportion of older workers: 42% of Quebec's natural resource workers are 45 and older, and 13% are aged 55 and over. Quebec also accounts for the largest share of the sector's near retirement workforce

(18%). The natural resources workforce in Manitoba, Saskatchewan and Alberta is somewhat younger relative to other regions. In these provinces, only between eight and nine percent of the workforce is aged 55 and over.

- The largest occupational group in the sector is "occupations unique to forestry, mining, and oil and gas extraction". This includes such occupational titles as supervisors in logging or gas drilling, underground production and development miners, oil well drillers, logging machinery operators, and labourers in mining, oil and gas drilling. Numbering 98,000, they make up 37% of the total natural resources workforce. This group also includes a large proportion of near-retirement workers (12%).

- While fewer in number, workers in trades occupations – construction, electrical, machinists, mechanics, etc. – make up a significant share of employment in the natural resources sector (18% or 46,000 workers)[11]. About one in nine of these trades workers (11%) is aged 55 and over and nearing retirement.

- Excluding the self-employed, 27% of the sector's workforce is unionized or covered by a collective agreement. Nearly one half of unionized workers (45%) are aged 45 and over, and 11% near-retirement age (55 and over). Rates of unionization vary considerably by age: 13% of workers aged 15-24 and 20% of those 25 to 34 are unionized, compared to 36% of workers aged 45 and over.

Table 2
Who are they? Where are they?
Older workers and near-retirees in the natural resource sector, by selected characteristics
Labour Force Survey, 2003

		Proportion of workers				Distribution of 55+ by characteristics
		Aged 45+		Aged 55+		
		%	(000's)	%	(000's)	
Natural Resources		36%	93,167	10%	27,152	100%
Gender	Male	37%	81,704	11%	24,317	90%
	Female	28%	11,462	7%	2,836	10%
Region	Atlantic	42%	9,855	12%	2,793	10%
	Quebec	42%	15,470	13%	4,837	18%
	Ontario	41%	13,240	11%	3,643	13%
	MB SK	32%	7,348	9%	1,932	7%
	Alberta	29%	30,468	8%	8,101	30%
	BC	40%	16,786	14%	5,847	22%
Occupation	Managers	43%	8,459	12%	2,370	9%
	Natural sciences	31%	7,867	10%	2,458	9%
	Admin; clerical	34%	12,569	7%	2,777	10%
	Trades	43%	19,809	11%	5,161	19%
	Unique to resources	35%	34,675	12%	11,876	44%
	Operators; labourers	25%	7,040	6%	1,707	6%
	Other occupations	37%	2,747	11%	804	3%
Union Status	Unionized	45%	27,761	11%	6,960	36%
	Not unionized	30%	49,313	8%	12,626	64%

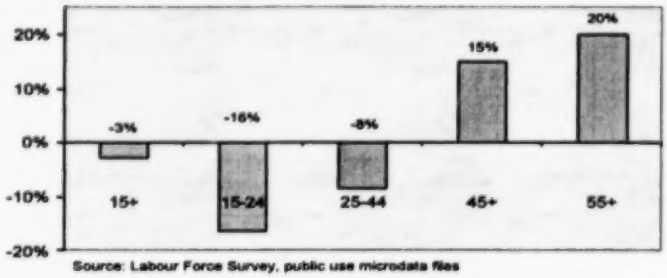
* *Excludes self-employed.*

[11] Excludes contractors and supervisors in trades.

Employment Growth by Age Group

Between 1997 and 2003, overall employment in the natural resources sector decreased by 3% or 7,000 workers (Chart 3). Throughout this period, the number of younger workers under 45 years declined by 10%, while the number of older workers 45 years and over increased by 15%.

Chart 3
Percentage change in the number of paid employees by age group: Natural resources, 1997-2003



Source: Labour Force Survey, public use microdata files

Rising Education and Skill Requirements

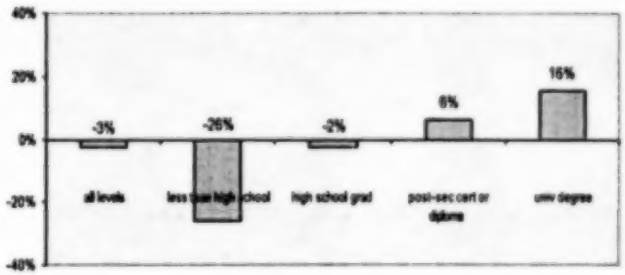
The level of formal educational attainment among the natural resources workforce is increasing. Even over the relatively short time span of 1997 to 2003, the proportion of the workforce with a post-secondary certificate, diploma or degree has increased from 48% to 53%. One reason for this increase is that retiring older workers are being replaced by younger cohorts with higher education. In 2003 for example, 37% of near-retirement workers aged 55 and over had not graduated from high school while 12% had a university degree. In contrast, only 13% of workers aged 25-34 had not graduated from high school and nearly one in five (19%) had a university degree. As older workers retire, they are replaced by younger cohorts where post-secondary qualifications are more commonly held.

This "ratcheting up" of education levels is evident among all age groups, not just new entrants into natural resources. For example, today's older workers in natural resources have higher levels of educational attainment than did older workers in the past, and tomorrow's older workers will have higher levels than today's. Consider for example, that in 2003, 40% of near-retirement workers (aged 55 and over) had some form of post-secondary credential. Just six years earlier, in 1997, that figure would have been 36%.

Increases in the formal education level of the natural resources sector workforce is in part a function of changes in the education of overall labour supply – that is, higher levels are now attained by the Canadian population in general. However, there is also evidence of growing demand for occupations that typically require higher education and skill levels. For example, while the total number of workers in the sector declined by 3% between 1997 and 2003, the number of workers in natural and applied science occupations increased by 15% over the same period. Within this group the proportion with post-secondary education increased from 80% to 83%.

As a result of the increased supply of and demand for higher formal education and skills, employment growth in the sector has been greatest among persons with post-secondary education. Chart 4 shows that while the number of paid employees within the natural resources sector declined by 3% between 1997 and 2003, the number of paid employees with a university degree increased by 16% and the number with a post-secondary certificate or diploma by 6%.

Chart 4
Percentage change in the number of paid employees by education level, Natural Resources Sector, 1997-2003



Source: Labour Force Survey, public use microdata files

Tapping into the Aboriginal Workforce

Canada's Aboriginal population is growing more quickly than the overall Canadian population, and their share of the total population is on the rise. According to Statistics Canada, the non-Aboriginal population increased by 3.4% between 1996 and 2001, while the number of people who identified themselves as an Aboriginal person increased by 22.2% [12]. Statistics Canada estimates that about one-half of this increase in the Aboriginal population was due to demographic factors such as birth rate, while the other half was due to increased awareness of Aboriginal roots and more completely enumerated reserves.

As a result of a higher birth rate, Canada's Aboriginal population is relatively young, with a median age 13 years below that of the non-Aboriginal population (24.7 years and 37.7 years respectively). Without question, there will be a much larger number of Aboriginal people entering the workforce in the years to come, particularly in provinces such as Saskatchewan and Manitoba, which have higher concentrations of Aboriginal people [13]. Ensuring that today's and tomorrow's Aboriginal workforce are equipped with the necessary skills and education to fully participate in the labour force is a key challenge, especially for the natural resources sector, for which the Aboriginal population is and will likely be a significant source of labour recruitment.

In 2001, Aboriginal persons accounted for 2.4% of Canada's experienced labour force (see Table 3, note 1). The Aboriginal labour force is numerically largest in the provinces of Ontario, British Columbia and Alberta, and proportionally largest in the provinces of Manitoba and Saskatchewan, accounting for nearly one in ten labour force participants. Within the Mining and Oil and Gas Extraction sector – one sub-sector within natural resources – the Aboriginal workforce accounts for an even greater share of the workforce (about 5%). In Manitoba, this figure rises to 10%, and in the three territories combined, to 42%.

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[12] Statistics Canada uses various methods of defining the Aboriginal population. The numbers used in this profile of the Natural Resources Sector are based on the concept of "Aboriginal identity" which refers to persons who reported identifying with at least one Aboriginal group, or who reported themselves as a Registered or Treaty Indian, and/or Band or First Nation member. See Statistics Canada, Aboriginal peoples of Canada: A demographic profile. Catalogue no. 96F0030XIE2001007.
[13] Ibid.

Table 3
Aboriginal Persons Aged 15+ in the Labour Force[1], Canada, Provinces and Territories, 2001

	Aboriginal Persons in the Overall Labour Force		Aboriginal Persons in the Mining and Oil and Gas Extraction Sector (NAICS 21) Labour Force	
	Number	Percent of Total	Number	Percent of Total
Canada	378,145	2.4	8,755	5.2
Newfoundland & Labrador	7,865	3.4	(Atlantic) 225	(Atlantic) 1.9
Prince Edward Island	555	0.8		
Nova Scotia	6,655	1.5		
New Brunswick	7,125	2.0		
Quebec	30,355	0.8	320	2.0
Ontario	82,255	1.4	865	4.1
Manitoba	53,125	9.2	440	10.4
Saskatchewan	39,100	7.8	1,285	8.9
Alberta	63,165	3.8	3,975	4.6
British Columbia	69,425	3.4	755	5.4
Yukon	3,150	17.8	95	22.1
Northwest Territory	7,745	37.9	645	45.4
Nunavut	7,625	71.1	150	60.0

[1] Includes only the "experienced" labour force, which is defined as persons whose responses on the 2001 Census indicated that they were either currently employed or currently unemployed but had worked in the previous 17 months (since January 2000). The number of Aboriginal persons is an estimate based on the Aboriginal identity definition, and refers to persons who reported identifying with at least one Aboriginal group (North American Indian, Métis or Inuit, as well as individuals who reported themselves as a Registered or Treaty Indian, and/or Band or First Nation member.

Source: Table derived from data in Statistics Canada, *Aboriginal Peoples of Canada* Catalogue no. 94F00041XCB.

Immigration as Source of Labour and Skills

Throughout Canada's history, immigration has been an important if not critical part of Canada's labour supply. Results from the latest Census of Canada suggest that the last decade of the 20th century has been no exception. Between 1991 and 2001, 978,000 immigrants arrived in Canada during the decade and joined the country's workforce. These "recent" immigrants represent 70 percent of the decade's total labour force growth[14].

While Canada's labour force growth over the past decade has relied heavily on immigration, the same cannot be said for the workforce of the natural resources sector. There are two main reasons for this. First, the sector itself has experienced declining levels of employment over the past 10 years, and secondly, immigrants tend to settle in large urban centres such as Toronto, Montreal, and Vancouver. As a result, the proportion of the natural resources labour force made up of immigrants is significantly below that found in other sectors of the Canadian economy.

Table 4 shows that immigrants account for about one out of five (19.9%) of Canada's total employed population, while recent immigrants – those arriving in Canada in 1991 or later, account for 6.1%. Within the natural resources sector however, immigrants represent a considerably smaller share of the employed workforce

[14] Canada's reliance on immigration for labour force growth is greater than – but not dissimilar to - that of the United States. Between 1990 and 2000, 50% of U.S. labour force growth was due to immigration. See Immigrant Workers and the Great American Job Machine: The Contributions of New Foreign Immigration to National and Regional Labour Force Growth in the 1990s. Andrew Sum, Neeta Fogg, Paul Harrington. Northeastern University. Center for Labor Market Studies.

- Overall, 7.6% of persons employed in the natural resources sector are immigrants, and only 1.6% are recent immigrant (arrived in Canada within the past 10 years).

- Certain sub-sectors within natural resources – such as "mining unspecified" and oil and gas extraction have a somewhat greater number of immigrants, although well below the level in the labour force as a whole.

Table 4
Employed Persons by Immigration Status, Natural Resources Sector, 2001

	% recent immigrant[2]	% immigrant
All Sectors	6.1	19.9
Natural Resources Sector	1.6	7.6
Forestry and Logging (NAICS[1] 113)	0.7	4.8
Support activities for agriculture and forestry (115)	2.7	9.0
Oil and Gas extraction (211)	2.4	12.2
Mining (except oil and gas) (212)	0.8	5.9
Support activities for mining and oil and gas (213)	1.6	7.0
Mining – unspecified (219)	4.3	14.4

[1] 1997 North American Classification System.
[2] Recent immigrants refers to immigrants arriving in Canada within 10 years of the date of the 1991 Census (May, 1991).
Source: 2001 Census, custom tabulations.

While Canada's immigration system has several objectives, including family reunification and humanitarian commitment, it plays an important role in meeting the nation's human resource requirements. Because selection criteria favour better educated immigrants, a large proportion of those coming to Canada bring with them post-secondary education and training. Among recent immigrants employed in Canada's mining and oil and gas extraction sector for example, 55% hold a university degree, and a further 27% hold a college or trades diploma. In comparison, 12% of the sector's Canadian-born workers hold a university degree and a further 38% hold a college or trades diploma.

While most immigrants find success in the Canadian labour market, the transition to employment is not always without problem. Familiar barriers to employment include the recognition of credentials obtained abroad, a lack of Canadian work experience and language difficulties. For the natural resources sector, issues related to immigrant settlement in smaller communities or rural and remote areas may also be a factor. In the context of a business environment in which concern about skill shortages is on the rise, and a labour market whose growth is increasingly dependent upon immigration, efforts to address these difficulties will be needed to ensure that immigrant integration into the Canadian workplace is efficient and effective.

Human Resource Challenges for the Natural Resources Sector

During the recession of the early 1990s, older workers – in particular, older men – lost a disproportionate share of employment, as employers attempted to trim payrolls through early retirements. However, demographic pressures arising from an ageing workforce and a proportionately shrinking pool of younger workers will undoubtedly diminish the risk of older workers losing jobs involuntarily. As older workers reach retirement age, unprecedented pressures will be placed on employers to recruit new workers, particularly skilled workers.

A recent report by Statistics Canada[15] shows that the job vacancy rate in 1999 – the proportion of total jobs that are unfilled – in the natural resource sector stood at 0.8%, which is below the overall average of 2.6%. These data suggest that current labour shortages in the sector are no more pronounced than in the economy as a whole. However, the demographics of the natural resource

[15] René Morissette and Xuelin Zhang, "Which Firms Have High Job Vacancy Rates in Canada?" Statistics Canada, Business and Labour Market Analysis, 11F0019MIE No. 176, October 2001

sector workforce make it clear that labour shortages could become more prevalent in the coming years, as baby boomers move into retirement. Effective strategies to replace the skills and experience of retiring workers should consider this longer-term trend.

There is little doubt that within the natural resources sector, as in other sectors of the economy, the ability of business to succeed and thrive will depend in large part on its efforts in addressing the skills challenges posed by workplace demographics, the continuing demand for skilled workers, and the growing reliance on immigration as a source of labour. Profitability, innovation, growth, and the ability to operate at capacity all depend on an adequate supply of skilled workers. The current demographic picture of the natural resources sector simply underscores the importance of addressing the sector's skill requirements.

It will become increasingly important to find ways to retain existing workers, attract new talent to the sector, transfer knowledge and experience between workers, and to situate learning and skills development as an ongoing feature of workplace practice. Stakeholders within the natural resources sector can implement a variety of programs, policies and practices to address these human resource challenges. And while there is unlikely to be a single "magic bullet" that will resolve all skills issues in all situations, there are a number of insights gained from research and existing innovative practices that could form the starting point for initiatives in addressing the critical issues retention and recruitment. Among these are:

- ***Training and skills development***, through formal employer sponsored classroom and on-the-job training as well as informal learning within the workplace not only improves productivity, but can increase employee retention and make workplaces more attractive to new recruits. In an environment of greater competition for young workers, the sector and its employers should showcase the career and training opportunities available in the industry. Research has shown that employees with lower skill and education levels are less likely to participate in training, and risk becoming less and less equipped to deal with an increasingly complex workplace. Efforts to increase adult literacy, numeracy, and essential workplace skills are an equally important component of the skills challenge.

- ***Knowledge transfer strategies*** such as mentoring, cross-training, job-sharing and job-shadowing, and the use of technology-based tools such as intranets and groupware can allow for the systematic exchange of skills, experience and "corporate memory." Such strategies are likely to become more important as older workers retire and new workers join the natural resources sector.

- ***Succession planning*** involves the determination of future staffing requirements in light of workforce demographics and business objectives, and the development of strategic plans for the replacement and recruitment of workers. Effective succession plans can anticipate skills and training requirements for those employees who are likely to replace retiring workers.

- ***Phased-in retirement provisions***, including such things as reduced or flexible work hours and job re-design could be useful in retaining older workers. Within the natural resources sector, 6% of male workers aged 55 and over worked part-time in 2003, compared to 2% of workers aged 25 to 54. Older workers who worked part time did so by choice, most often citing 'personal preference' as their reason for working less than 30 hours per week[16]. As today's near-retirement workers tend to be healthier, and with higher levels of education, they may opt for a continued connection to the workforce given choices in the flexibility of their work arrangements. A slower transition to retirement through a gradual reduction in work hours would allow employers to retain the benefit of an individual's experience and skills, which could be passed onto younger colleagues in an orderly fashion. Such strategies do raise important pension issues, but should be considered as they could help ease the demographic crunch.

[16] Based on the analysis of 2003 Labour Force Survey data.

- ***Utilizing of new sources of labour*** will undoubtedly become more prominent in the years to come. Skilled immigrants and the Aboriginal workforce will, in this regard, play an increasingly important and strategic role. Developing effective methods of assessing and recognizing qualifications and work experience gained from abroad are an important part of facilitating the integration of immigrants into manufacturing sector jobs.

- A growing body of evidence indicates that ***innovative workplace health practices*** which enhance physical as well as psycho-social dimensions of health, including work-life balance initiatives can improve retention and recruitment, and reduce absenteeism. As the workforce ages, the sector may find greater numbers of days lost to illness and disability. Over the period 1999-2003, the average natural resources sector worker aged 55 and over lost 9.7 days per year, compared to 6.4 days among workers aged 25 to 44. Given these findings, the current organization of work may require careful attention, with consideration given to innovative approaches and practices in the areas of occupational health, safety and wellness. Overall, the work environment and human resource practices may need to be adjusted to accommodate the needs and concerns of an older workforce as well as potential new entrants to the natural resources sector.

- Increasing ***youth awareness of career opportunities*** in the various natural resources sub-sectors could be an important feature of successful recruitment. Advertising and information campaigns, collaboration with colleges and universities through co-ops and internships, and the development of industry specific training programs that help students get practical job skills could play an important role.

- Working with and through ***sector councils and professional associations*** to develop these and other innovative responses and approaches to human resources issues could help employers more effectively and efficiently meet their human resource requirements. Celebrating, promoting and emulating best practices in recruitment, retention, and skills development could further foster a spirit of excellence within the natural resources sector.

About the CLBC

The Canadian Labour and Business Centre is an independent national labour-business organization whose mission is to contribute to economic growth and social well-being by improving business and labour practices in Canada, and by providing joint advice on public policy. Since 1984, we have been the recognized centre for business-labour dialogue and consensus building in the country.

Appendix Table A.1
Natural Resources Sector, Selected Labour Force Characteristics, Canada, 2001 Census

	Forestry and Logging (NAICS 113)	Support Activities for Forestry (NAICS 1153)	Oil and Gas Extraction (NAICS 211)	Mining (NAICS 212)	Support Activities for Mining and Oil and Gas Extraction (NAICS 213)	Mining Unspecified (NAICS 219)
Total Experienced Labour Force[1]	69,070	25,765	46,825	58,975	60,990	3,180
% male	88%	78%	73%	90%	86%	86%
% female	12%	22%	27%	10%	14%	14%
average age	40.9	36	39.8	42.6	36.4	42.1
# unemployed[2]	22,370	6,520	2,430	4,265	7,545	370
% unemployed	32%	25%	5%	7%	12%	12%
# employed[2]	46,695	19,240	44,395	54,710	53,440	2,815
% employed	68%	75%	95%	93%	88%	89%
% of employed working full-time (30 hours or more)	79%	86%	91%	92%	87%	88%
% of employed working 50 hours or more	28%	25%	30%	24%	46%	30%
Average hours worked	42.5	41.7	46.4	45.6	52	46.7
Occupation[3]						
A Management occupations	5%	4%	11%	6%	10%	9%
B Business, finance and administration occupations	8%	7%	22%	8%	12%	12%
C Natural and applied sciences and related occupations	5%	24%	24%	8%	11%	12%
H Trades, transport and equipment operators	20%	6%	15%	42%	21%	30%
I Occupations unique to primary industry	56%	54%	13%	26%	40%	27%
All other occupational groups	6%	4%	16%	11%	7%	10%
% of experienced labour force self-employed	19%	9%	5%	2%	12%	9%
Mobility[4]						
% of experienced labour force who are migrants	15%	21%	22%	15%	30%	23%
% within same province	13%	16%	12%	11%	18%	14%
% from a different province	2%	4%	7%	3%	11%	8%
% from outside Canada	0%	1%	3%	1%	2%	2%
% of experienced labour force with post-secondary education	30%	46%	68%	47%	41%	55%
% with trades	16%	12%	20%	26%	18%	26%
% with college or university certificate below bachelors	10%	20%	22%	14%	13%	16%
% with univ	4%	14%	27%	8%	9%	14%
Major field of study[5]						
Commerce, management and business administration	11%	9%	23%	11%	15%	14%
Agricultural, biological, nutritional, and food sciences	5%	7%	1%	2%	3%	4%
Engineering and applied sciences	13%	27%	15%	6%	8%	7%
Applied science technologies and trades	56%	34%	39%	67%	54%	55%
Other	14%	23%	22%	14%	20%	21%
Average 2000 employment income $	$32,871	$23,475	$70,082	$50,286	$48,244	$50,204

[1] The experienced labour force refers to persons whose responses on the 2001 Census indicated that they were either currently employed in the natural resources sector or currently unemployed but had worked in the previous 17 months (since January 2000) in the natural resources sector.

[2] As of the week prior to the Census date (May 15,2001)

[3] Based on National Occupational Classification System. Distribution based on experienced labour force (see note 1)

[4] Mobility data based on place of residence 5 years ago (from the date of the 2001 Census). Migrants are persons who have changed dwellings during the 5 year period, having moved to a different census subdivision. Migrants include people who moves within the same province, from a different province, or from outside Canada.

[5] Refers to the experienced labour force with completed post-secondary education

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